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CLOSING THE DOOR . . .

Needed Facilities for California's Colleges and Universities



CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

Summary

This statement by Executive Director Warren Halsey Fox addresses a critical problem facing California higher education. In the next 10 years, California faces a demand for educational services for between 400,000 and 500,000 new students at the California Community Colleges, the California State University, and the University of California. Most of this surge, which has become known as "Tidal Wave II," will occur after the turn of the century, but if the institutions are to be ready, it is essential that construction begins now to expand existing campuses, renovate old buildings, build new campuses and off-campus centers, invest in new infrastructure, minimize costs and increase productivity, and purchase new equipment that will give the next generation of students the technological skills that they will need to compete in a radically new kind of economy.

There is widespread agreement that the enrollment demand is real, and agreement as well that education is the key to the future. In spite of that, however, there are grave doubts that California will make the necessary plans, take the necessary actions, and provide the necessary resources to make opportunity as real for the next generation of Californians as has been for previous ones. The capacity of the independent and private colleges needs to be used as well. According to the recently released Commission report *A Capacity for Growth*, California higher education needs billions of new dollars for both current operations and capital outlay. On the operations side, it is clear that budgets will be very tight, for facilities, the situation appears to be very nearly impossible. The existing 137 campuses will need about \$500 to \$600 million per year, on an ongoing basis, to maintain and renovate buildings and infrastructure, as well as to provide necessary improvements to keep the facilities useful in the modern era. For growth, the three systems will need another \$400 million per year, for at least the next 10 years, if the projected enrollment demand is to be met. The total is \$1 billion per year, every year, for the foreseeable future.

The Commission is not aware of any way or combination of ways to raise such a sum. The best higher education can hope for is to meet about half its need. In this report, Executive Director Fox speaks about the dilemma facing California higher education, and offers some ideas and speculations on the future. Whatever that future holds, it is certain that it will be interlaced with many difficult decisions.

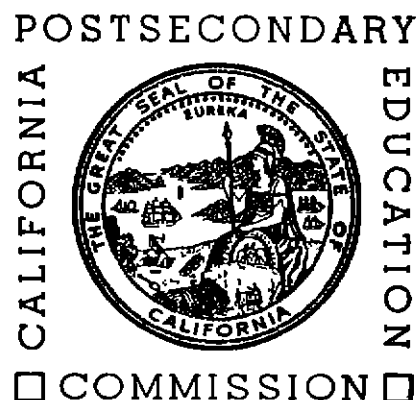
The Commission heard this report at its meeting on October 29, 1995. To order copies of this report, write to the Commission at 1303 J Street, Suite 500, Sacramento, California 95814-2938, or telephone (916) 445-7933.

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Needed Facilities for California's Colleges and Universities

*A Report by the California
Postsecondary Education Commission
Executive Director Warren H. Fox*

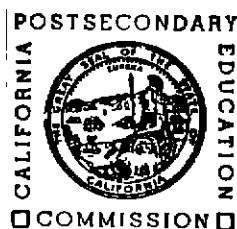
CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1303 J Street ♦ Fifth Floor ♦ Sacramento, California 95814-2938





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California Higher Education Faces a Huge Enrollment Surge, with Few Resources to Build the Required Facilities. Will the Next Generation of Students Find Higher Education's Doors Closed?

WARREN HALSEY FOX, *Executive Director*
California Postsecondary Education Commission

CALIFORNIA has long been proud of its "Master Plan for Higher Education," although the term itself is something of a misnomer. According to Clark Kerr, one of the chief architects of both the plan and the Donahoe Act that implemented major portions of it, the Master Plan was not intended to be a real plan at all. Rather, "What we really were engaged in was negotiating a treaty among the constituent parts of higher education in California that would, at the same time, be acceptable to the governor and the legislature of the State. We wanted a structure for planning, not a plan." (*Higher Education Cannot Escape History*, Clark Kerr, 1994, p. 112) Whether plan or covenant, the system that emerged from it has been copied often, praised more often, studied repeatedly, commonly misunderstood, and increasingly taken for granted.

A legacy of growth and excellence

Although no one has ever made a formal estimate of the worth of this physical plant, the replacement value, in today's dollars, is probably in the neighborhood of \$30 billion.

In 1960, the system Dr. Kerr and his planners attempted to organize and regulate consisted of 63 junior colleges, 13 state colleges, and 6 campuses of the University of California. Today, that system includes 137 public institutions: 106 California Community Colleges, 22 California State University campuses, and 9 University of California branches. This year, almost two million students will study everything from basic English to advanced quantum physics at California's campuses, and receive certificates and degrees in a dazzling array of vocational and academic subjects. They will take classes at all times of the day and evening in hundreds of buildings that house thousands of classrooms, teaching and research laboratories, libraries, computer centers, recreational facilities, offices, theaters, museums, and other spaces. In all, and probably without any real awareness of it, they will wander through parts of the approximately 100 million square feet of space of buildings on these campuses from the Imperial Valley to Eureka. Although no one has ever made a formal estimate of the worth of this physical plant, the replacement value, in today's dollars, is probably in the neighborhood of \$30 billion.

California's investment in these buildings, and in the people who live and work within them, has been poured forth over the past 50 years -- since the end of World War II -- on a scale seldom, if ever, seen anywhere. Since 1965 alone, the taxpayers of this State have invested billions of dollars in construction for a physical

infrastructure of almost incalculable value. Millions of Californians have received their education in one or more of these institutions, and have gone on to use the knowledge gained to improve both themselves, and the communities in which they live. And it should be added, with emphasis, that the activities that have gone on for generations in the research laboratories of the University of California, which are among higher education's most valuable facilities, has produced thriving industries in agriculture, aerospace, electronics, semiconductors, genetic engineering, and a host of other fields. However troubled California's economy has been over the past five years, it is still prosperous by virtually any standard, due in no small measure to the investment in higher education made by previous generations. As California looks to its future, it should remember that any future prosperity will depend heavily on the continuing health of the higher education enterprise.

An uncertain future

Yet as we look into that uncertain future, there are solid reasons for questioning whether California will continue to invest in education at a level sufficient to assure the vitality we have come to take for granted.

Yet as we look into that uncertain future, there are solid reasons for questioning whether California will continue to invest in education at a level sufficient to assure the vitality we have come to take for granted. The indicators that create that doubt are numerous. As a share of State government spending, higher education has shrunk from 16.8 percent of the total 20 years ago to only 12.5 percent in the current fiscal year. Student fees at the University of California have risen from \$647 in 1975 to over \$4,000 today, a 540 percent increase. State University fees have risen from \$194 to \$1,734, a 794 percent increase. By contrast, inflation has risen only 187 percent during the same period. Over the past five years, classes have been canceled, class sizes have risen, more part-time faculty have been employed, and many of the most talented and senior faculty and staff members have opted for early retirement or simply left for greener pastures.

The growing facilities dilemma

As disheartening as the lack of general support is, the challenge facing California higher education in the next ten years and beyond is the dearth of funding to both maintain the existing physical plant and to provide new facilities and equipment to

educate the next generation of students. Building funds are derived primarily from the proceeds of bonds, either those approved by the people in general elections (general obligation bonds), those approved by the Legislature (lease-payment bonds), or those for special facilities such as dormitories or parking lots (revenue bonds). Since general obligation bonds can be sold at the lowest interest rates, they have been popular in the 1980s and 1990s, even though voter approval has become increasingly difficult to obtain.

"TIDAL WAVE II" Enrollment Growth (Headcount) Fall 1993 to Fall 2005

System	Baseline Projection	Low Altern. Projection
Calif Comm Colleges	337,770	249,586
California State University	85,356	58,227
University of California	32,064	22,222
Total	455,190	330,035

California Postsecondary Education Commission

Earlier, from the 1960s through the late 1970s, there was less reliance on bonds, since many of higher education's needs were met by revenues derived from State-granted leases for off-shore oil exploration. In the 1980s, growing environmental concerns ended this revenue stream, and forced the State to rely on bonds for the maintenance and expansion of campus facilities. It was no accident that the last appropriation of tidelands oil revenues occurred in 1986, the same year the first of six major bond issues was offered to the voters for approval.

The first three of these bond issues, which totaled about \$1.5 billion to be spent over a six-year period, were approved, although by ever narrower margins. The fourth proposal, for \$450 million, was defeated in November 1990. Of the two measures proposed since, the June 1992 issue was approved, but the June 1994 issue was defeated, each was for \$900 million. During the past session, the Legislature considered a bill to place a consolidated \$3 billion bond issue on the ballot in March 1996 for both public schools and higher education. The public school sector would receive \$2,025 million of this amount, with higher education receiving \$975 million. The bill was narrowly defeated, but efforts to bring an education bond proposal to the voters are continuing.

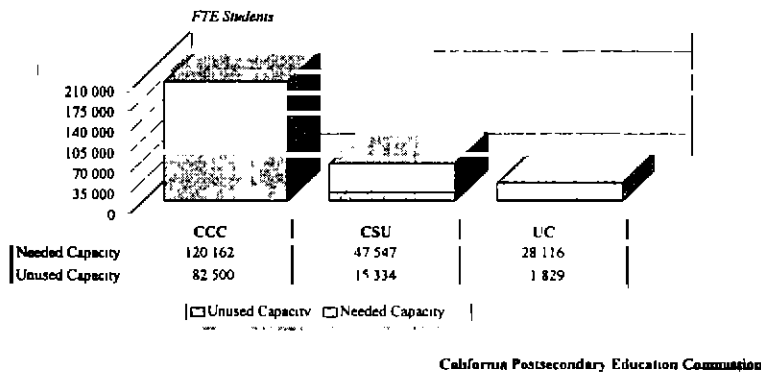
**"Title Wave II"
and existing
capacity**

Are these amounts really needed? And if so, are bonds the best way to raise the money? These are important questions, and to answer them, the California Post-secondary Education Commission spent two years creating a facilities report for the years between now and 2005. That result of that effort is entitled *A Capacity for Growth*, and it contains a comprehensive analysis of the dilemma facing California higher education. It begins with a ten-year enrollment projection for all three of the higher education systems: the California Community Colleges, the California State University, and the University of California (see above). That projected growth has become known as "Tidal Wave II." It continues with an analysis of existing capacity at all 137 public sector campuses, concluding that while there is considerable excess space available (as shown on the next page), the excess falls far short of the amount needed to enroll the anticipated growth of 455,000 new students. From there, the report delves deeply into the cost issues, and projects not only the probable capital costs for the next ten years, but also the condition of the General Fund — both revenues and expenditures — over the same period. It concludes with a discussion of 13 options for both economic efficiency and additional spending, with a comprehensive analysis of the issues surrounding California's debt situation generally, and bonded debt for higher education in particular.

keeping buildings functional means that about \$600 million should be spent this year, next year, and every year to replace dilapidated structures, fix roofs, replace plumbing, wiring, and obsolete and worn-out equipment, and perform various renovations, seismic retrofits, and health and safety projects

The conclusions contained in *A Capacity for Growth* should be of concern to everyone, for the report states plainly that California is facing an unprecedented facilities dilemma. Higher education's physical plant has a replacement value of about \$30 billion. Buildings generally have a useful life span of about 30 to 40 years, but the report assumes a more optimistic view, and extends that usefulness to 50 years. Even with that extension, however, keeping buildings functional means that about \$600 million should be spent this year, next year, and every year to replace

Comparison of Unused and Needed Capacity, Based on the CPEC Enrollment Projections 1993-94 to 2005-06



dilapidated structures; fix roofs, replace plumbing, wiring, and obsolete and worn-out equipment, and perform various renovations, seismic retrofits, and health and safety projects. In addition to that, there is the need to expand, to build new buildings to house the enrollment growth that is about to wash up on higher education's shores. Building necessary classrooms, laboratories, offices, and other facilities for those students will take another \$400 million annually. The total, and it is a staggering number, is about \$1 billion per year, each and every year,

for at least the next ten years, and **probably** longer

Can the resources be found to serve the future?

Can we raise the money to maintain the existing infrastructure, and also provide the necessary buildings and equipment for an increasingly technological future? On the support side, the Commission's report notes that even with reasonable revenue growth and strong spending discipline, support budget funding for higher education may *barely* meet growth and inflation expectations. Concerning facilities, the Commission is equally pessimistic. "While the data indicate that support budget funding may be minimally adequate, the prospects for capital outlay funding are exceptionally poor. Given an annual need of approximately \$1 billion -- about 61 percent to maintain the existing physical plant, and about 39 percent for expansion -- the Commission can find no combination of practical possibilities that would produce savings or revenue sufficient to satisfy the total need. Under the best of circumstances, it may be possible, through strong local efforts from community college districts, greater fund raising by the two university systems, the passage of bond issues, and more efficient operation, to raise about half to two-thirds of the needed funds."

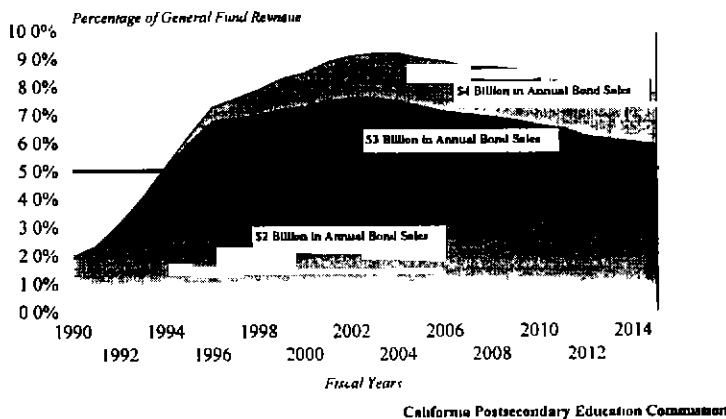
Building necessary classrooms, laboratories, offices, and other facilities for those students will take another \$400 million annually. The total, and it is a staggering number, is about \$1 billion per year, each and every year, for at least the next ten years

It is instructive to note that the bond issue considered during the past session by the Legislature -- but not placed on the ballot -- would have allocated \$975 million for higher education, to be spent over a two-year period. When supplemented by lease-payment bonds, those funds could have been extended to generate almost enough to meet the needs of the *existing* physical plant. The operative words are "existing" and "almost." The community colleges already have a project backlog of over \$1 billion caused by the defeat of prior bond issues. The backlog in the other systems is in the hundreds of millions of dollars, and no one knows where to find the funds for the University's Lake Yosemite campus, its tenth.

Shouldn't we just pass larger bond issues then? Fortunately or unfortunately, even if we could find the political and electoral will, economic and fiscal realities would

Debt Service as a Percent of General Fund Revenue (\$2 to \$4 Billion in Annual Sales)

1989-90 to 1993-94 (Actual) – 1994-95 to 2014-2015 (Projected)



prevent us from doing so. Various experts, mostly from private firms specializing in bond debt financing, have told legislators that a prudent debt burden should not exceed five or six percent of State General Fund revenues, at present, we are at about 5.3 percent. As shown in the display on the left, this means that we can sell about \$2.5 billion per year in bonds for all purposes and never (or only temporarily) go over the six percent threshold, which would be acceptable if higher education was the only part of the government that needed bond

financing. However, there is also the public school sector, where the needs are two or three times as great as for higher education, plus Corrections and the Youth Authority, which also needs about \$1 billion per year for new prisons. There are also park acquisitions, rapid transit projects, general government buildings, and even the proposed Peripheral Canal. Higher education represents only about 20 percent of the total need, which means that it should expect no more than about 20 percent of the available bonding capacity, or about \$500 million per year at the most, which is about half the need.

What options do we have?

Are there other options? Yes, and the Commission considered many of them in its report. It is abundantly clear that we must not only ask more of the taxpayers, we must ask more of higher education itself. Over the past ten years, American business has been forced to find new ways of doing things, and the changes, however painful in the short run, have been tremendously beneficial to the American economy overall. We must ask no less of higher education.

We must find ways for college and university faculty and administrators to use their facilities more efficiently, perhaps by extended schedules. Full-blown year-round operation remains a dubious solution for many reasons, but a concerted effort to increase building utilization must be realized.

At the Commission, we think technology has immense promise, and believe that the next ten years will be a great adventure as higher education changes practices that have been in place for generations.

Also recommended are improved uses of technology, from televised distance learning to self-instructional multi-media software packages. Technological applications to instruction are already showing enhanced use in higher education, particularly in the community colleges and the State University, and most agree that we have barely scratched the surface. Yet the problems of creating greater efficiencies through television and computers are as immense as the promise of lowered costs. Ironically, one of the problems is the lack of funding to purchase the equipment needed to create the instructional programs -- a sort of "Catch-22" all by itself. Another is the relative shortage of good multi-media software. A third is

the fact that facilities are often not configured properly to take advantage of computerized instructional techniques. It is obvious that we will need good planning as we move forward. At the Commission, we think technology has immense promise, and believe that the next ten years will be a great adventure as higher education changes practices that have been in place, in more or less the same form as they are today, for centuries.

Among the changes will be a reorientation away from the simple accumulation of credits and toward the accumulation of definite and measurable skills. By doing so, we may be able to move students through our campuses faster, lower costs, and actually improve the abilities of our graduates at the same time. We may also have to ask some faculty to teach more, to streamline administrative procedures, and to find more efficient ways to help students who are qualified in most respects, but may need additional work in particular subjects. Other ideas include improved student flow, the assigning of more developmental instruction to the community colleges, greater classroom and laboratory utilization, pursuit of three-year degrees, lease-purchase agreements with corporations, and enrollment of students in independent institutions. All of these ideas have merit -- all are being studied at the present time -- yet even collectively, they cannot entirely close the facility funding gap that gets wider every year.

Conclusion

Today, there is a distinct possibility that California may not meet the challenge -- the combination of political infighting, institutional inertia, and societal indifference may ultimately fail the campuses that can provide the skills and knowledge for a future of economic prosperity and cultural growth.

Ten years ago, the Commission published a report that is worth remembering today. *The Wealth of Knowledge* discussed the economic and social impacts of higher education and reached a number of conclusions about the value of California's investment in its institutions. The Commission has noted: "Investments in education are a large part of the reason why California has been able to create the most vibrant and productive economy in the history of humankind. In all probability, it is also this same investment that has given Californians -- and all Americans -- the freedom to enjoy it."

First, the monetary returns from higher education alone are probably sufficient to offset all of the costs. Second, the nonmonetary returns are several times as valuable as the monetary returns. And third, the total returns from higher education in all its aspects exceed the cost by several times.

Howard Bowen
"Investment in
Learning"

Our greatest need today is for a consensus on the importance and value -- both economically and culturally -- of higher education. If we fail to achieve that consensus, the consequences are becoming clearer. Without new resources, and the will, energy, and creativity to use them wisely, students will be denied access to our institutions, morale will deteriorate along with the buildings, jobs will be harder to fill with appropriately skilled people, and frustrations and angers may grow. To the general public, much of this will be invisible; they will see mostly the effects, which will be terribly adverse and last for a generation, or more.

In these times, the need to change and invest in our future may be even greater than in the past. We are transitioning into another of the great economic and social shifts in history, as significant and traumatic as the one that moved America from

agriculture to industrialism. Now that the "information age" is a reality, there is little doubt that those who succeed in the future will be those with the necessary skills to operate in a radically new economic environment. As this revolution proceeds, the capital outlay funding deficiencies we are increasingly experiencing on our campuses will be exacerbated by new needs for technological renovation and equipment modernization. We are already very far behind where we should be in adjusting to this change, and there is ample reason to believe that we will fall further behind unless we can find a way to persuade the general public and state-wide policy makers that the crisis in higher education is real, that it is serious, and that the consequences of inaction will be great.

This Director's Report is designed to assist in the process of awakening people to current realities. We must not only preserve the opportunities our students have now, but plan for the enrollment surge over the next decade. Our social and economic futures depend upon opening doors -- not closing them. Much is at stake.

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature

Members of the Commission

The Commission consists of 17 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. Six others represent the major segments of postsecondary education in California. Two student members are appointed by the Governor.

As of October 1995, the Commissioners representing the general public are

Henry Der, San Francisco, *Chair*
Guillermo Rodriguez, Jr., San Francisco, *Vice Chair*
Elaine Alquist, Santa Clara
Mim Andelson, Los Angeles
C. Thomas Dean, Long Beach
Jeffrey I. Marston, San Diego
Melinda G. Wilson, Torrance
Linda J. Wong, Los Angeles
Ellen F. Wright, Saratoga

Representatives of the segments are.

Roy T. Brophy, Fair Oaks, appointed by the Regents of the University of California,
Yvonne W. Larsen, San Diego, appointed by the California State Board of Education,
Alice Petrossian, Glendale, appointed by the Board of Governors of the California Community Colleges,
Ted J. Saenger, San Francisco, appointed by the Trustees of the California State University,
Kyhl Smeby, Pasadena, appointed by the Governor to represent California's independent colleges and universities, and
Frank R. Martinez, San Luis Obispo, appointed by the Council for Private Postsecondary and Vocational Education

The two student representatives are

Stephen R. McShane, San Luis Obispo
John E. Stratman, Jr., Orange

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs."

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory body to the Legislature and Governor, the Commission does not govern or administer any institutions, nor does it approve, authorize, or accredit any of them. Instead, it performs its specific duties of planning, evaluation, and coordination by cooperating with other State agencies and non-governmental groups that perform those other governing, administrative, and assessment functions.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, its meetings are open to the public. Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request before the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Warren Halsey Fox, Ph.D., who is appointed by the Commission.

Further information about the Commission and its publications may be obtained from the Commission offices at 1303 J Street, Suite 500, Sacramento, California 95814-2938, telephone (916) 445-7933.

CLOSING THE DOOR . . . NEEDED FACILITIES FOR CALIFORNIA'S COLLEGES AND UNIVERSITIES

Commission Report 95-15



ONE of a series of reports published by the California Postsecondary Education Commission as part of its planning and coordinating responsibilities. Single copies may be obtained without charge from the Commission at 1303 J Street, Suite 500, Sacramento, California 95814-2938. Recent reports include

1995

- 95-4 *Faculty Salaries in California's Public Universities, 1995-96: A Report to the Legislature and the Governor in Response to Senate Concurrent Resolution No. 51* (April 1995)
- 95-5 *Legislative and State Budget Priorities of the Commission, 1995: A Report of the California Postsecondary Education Commission* (April 1995)
- 95-6 *Executive Compensation in California Public Higher Education, 1994-95: The Third in a Series of Annual Reports to the Governor and Legislature in Response to the 1992 Budget Act* (June 1995)
- 95-7 *Approval of the Escondido Center of the Palomar Community College District: A Report to the Governor and Legislature in Response to a Request from the Board of Governors of the California Community Colleges* (June 1995)
- 95-8 *Perspective of the California Postsecondary Education Commission on Educational Equity* (June 1995)
- 95-9 *A Capacity for Growth: Enrollments, Resources, and Facilities for California Higher Education, 1993-94 to 2005-06* (August 1995)
- 95-10 *Financial Condition of Independent California Colleges and Universities: A Report of the California Postsecondary Education Commission* (August 1995)
- 95-11 *Fiscal Profiles, 1995: The Fifth in a Series of Factbooks About the Financing of California Higher Education* (August 1995)
- 95-12 *California Colleges and Universities, 1995: A Guide to California's Degree-Granting Postsecondary Institutions and to Their Degree, Certificate, and Credential Programs* (September 1995)
- 95-13 *The Effectiveness of California's Oversight of Private Postsecondary and Vocational Education: A Report to the Legislature and the Governor in Response to Education Code Section 94345* (October 1995)
- 95-14 *California Public College and University Enrollment Demand 1994 to 2005: A Report to the California Postsecondary Education Commission* (July 1995)
- 95-15 *Closing the Door . . . Needed Facilities for California's Colleges and Universities: A Report by the California Postsecondary Education Commission Executive Director Warren H. Fox* (October 1995)